

Silicon NPN Power Transistor

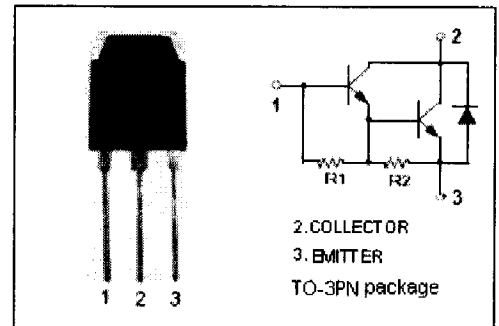
BU931P

DESCRIPTION

- High Voltage
- DARLINGTON

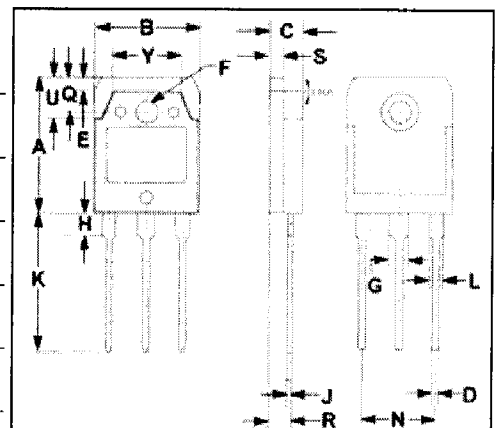
APPLICATIONS

- High ruggedness electronic ignitions
- High voltage ignition coil driver



ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	500	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EB0}	Emitter-Base Voltage	5	V
I _C	Collector Current	15	A
I _{CM}	Collector Current-peak	30	A
I _B	Base Current	1	A
I _{BM}	Base Current-peak	5	A
P _C	Collector Power Dissipation @T _c =25°C	135	W
T _j	Junction Temperature	175	°C
T _{stg}	Storage Temperature Range	-65~175	°C



DIM	mm	
	MIN	MAX
A	19.90	20.10
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	1.1	°C/W



Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS

$T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 0.1\text{A}; I_B = 0; L = 10\text{mH}$	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 7\text{A}; I_B = 70\text{mA}$			1.6	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 8\text{A}; I_B = 100\text{mA}$			1.8	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{A}; I_B = 250\text{mA}$			1.8	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C = 7\text{A}; I_B = 70\text{mA}$			2.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C = 8\text{A}; I_B = 100\text{mA}$			2.4	V
$V_{BE(sat)-3}$	Base-Emitter Saturation Voltage	$I_C = 10\text{A}; I_B = 250\text{mA}$			2.5	V
I_{CES}	Collector Cutoff Current	$V_{CE} = 500\text{V}; V_{BE} = 0$ $V_{CE} = 500\text{V}; V_{BE} = 0; T_j = 125^{\circ}\text{C}$			0.1 0.5	mA
I_{CEO}	Collector Cutoff Current	$V_{CE} = 450\text{V}; I_B = 0$ $V_{CE} = 450\text{V}; I_B = 0; T_j = 125^{\circ}\text{C}$			0.1 0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{V}; I_C = 0$			20	mA
h_{FE}	DC Current Gain	$I_C = 5\text{A}; V_{CE} = 10\text{V}$	300			
V_{ECF}	C-E Diode Forward Voltage	$I_F = 10\text{A}$			2.5	V